

HIV1LAI (DP-178; SEQ ID NO.:1)	YTSLIHSLIEESQNQKEKNEQELLELDKWASLWNWF
HIV1SF2 (DP-185; SEQ ID NO.:3)	YTNTIYTLLEESQNQKEKNEQELLELDKWASLWNWF
HIV1RF (SEQ ID NO.:4)	YTGIIYNLLEESQNQKEKNEQELLELDKWANLWNWF
HIV1MN (SEQ ID NO.:5)	YTSLIYSLLEKSQTQKEKNEQELLELDKWASLWNWF
HIV2ROD (SEQ ID NO.:6)	LEANISKSLEQAQQKEKNMYELQKLNWDIFGNWF
HIV2NIHZ (SEQ ID NO.:7)	LEANISQSLEQAQQKEKNMYELQKLNWDVFTNWL
DP180 (SEQ ID NO.:2)	SSESFTLLEQWNNWKLQLAEQWLEQINEKHYLEDIS
DP118 (SEQ ID NO.:10)	QQLLDVVKRQQEMLRLTVWGTKNLQARVTAIEKYLKDQ
DP125 (SEQ ID NO.:8)	CGGNLLRAIEAQQHLLQLTVWGIKQLQARILAVERYLKDQ
DP116 (SEQ ID NO.:9)	LQARILAVERYLKDQQQ

FIG.1

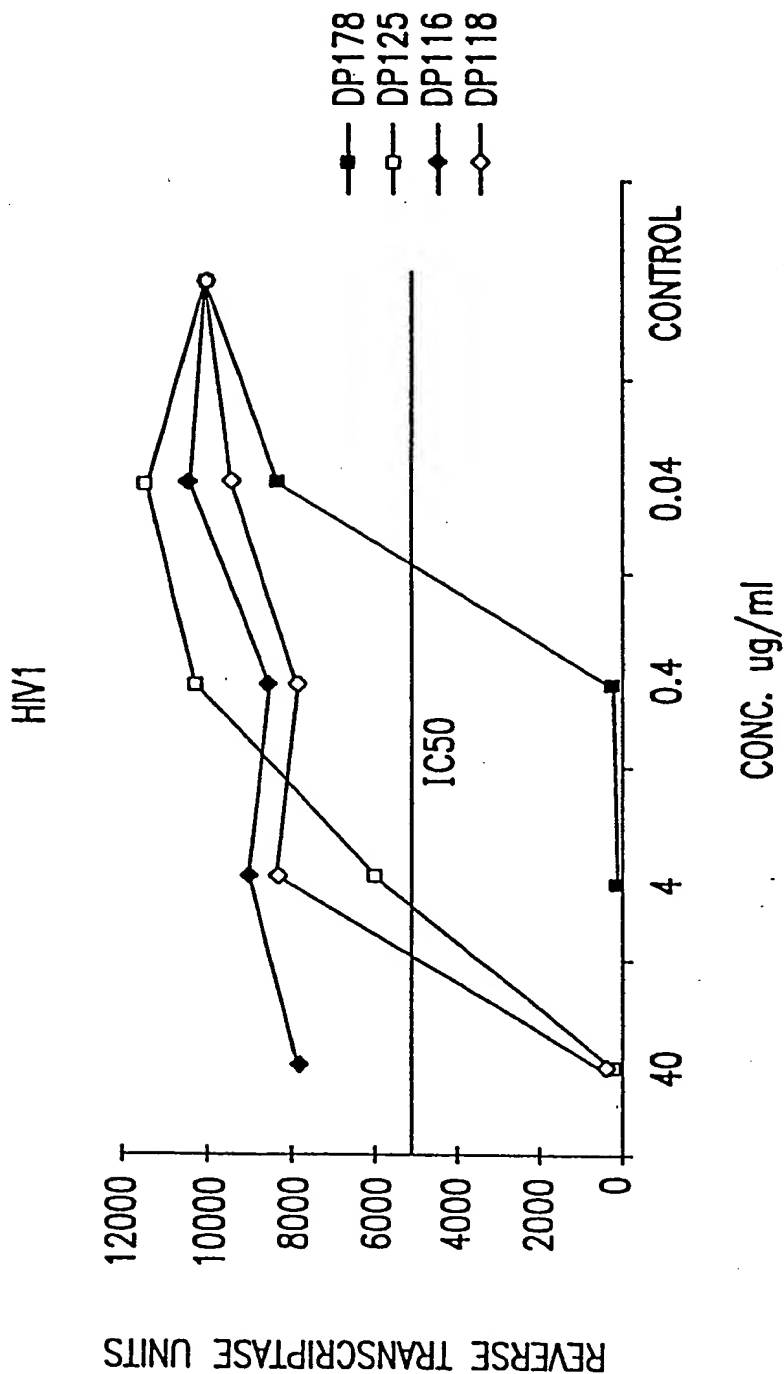


FIG.2



Docket No.: 7872-027-999  
Serial No.: 08/487,355  
Inventor(s): Barney et al.  
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

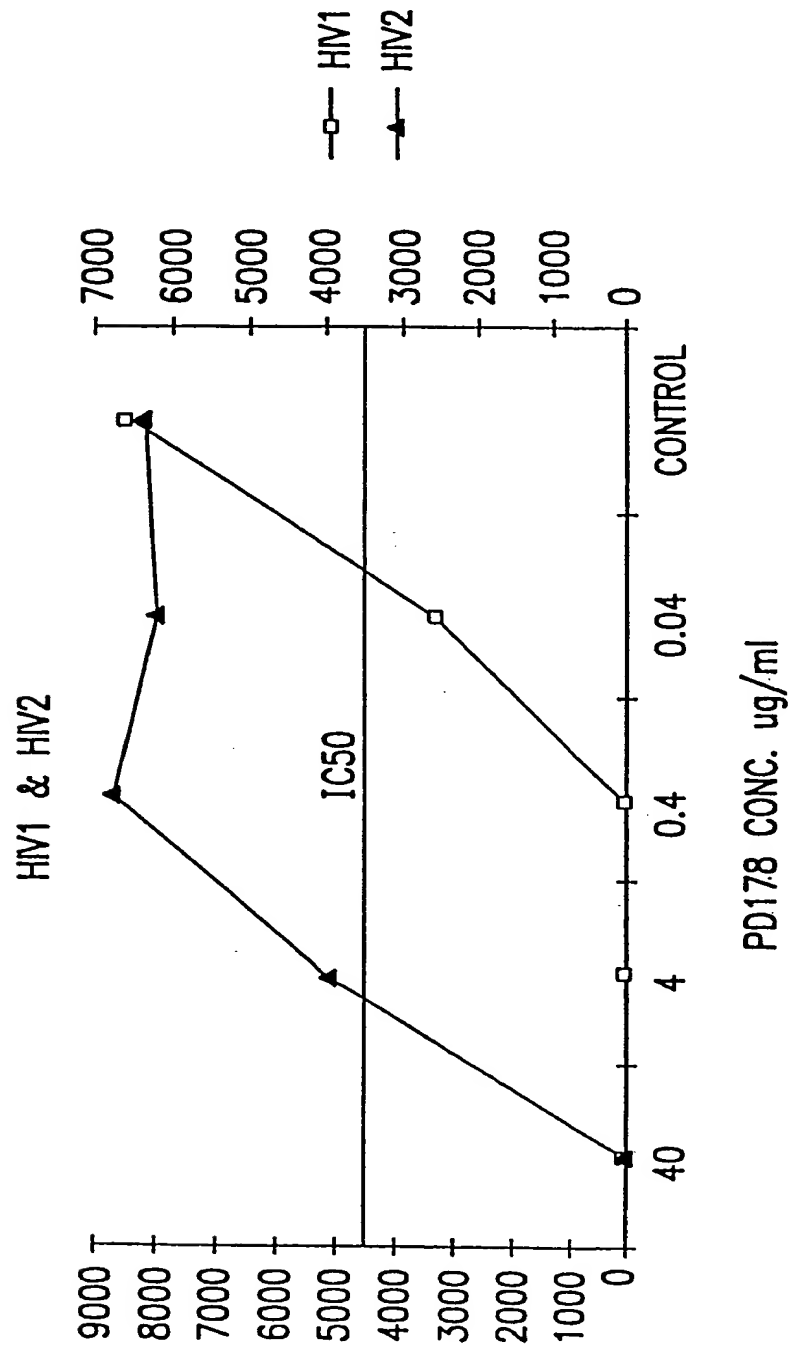


FIG.3



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Number of Syncytia/well: concentration in $\mu\text{g/ml}$ (micrograms/ml)									
DP178	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
<i>Syncytia</i>									
HIV1LA1	0	0	0	0	0	0	0	0	67
HIV1MN	0	0	0	0	0	ND	ND	ND	34
HIV1RF	0	0	0	0	0	ND	ND	ND	65
HIV1SF2	0	0	0	0	0	ND	ND	ND	58
DP125	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
<i>Syncytia</i>									
HIV1LA1	0	0	54	69	80	75	79	82	67
HIV1MN	0	0	30	36	ND	ND	ND	ND	34
HIV1RF	0	0	67	63	ND	ND	ND	ND	65
HIV1SF2	0	0	9	66	ND	ND	ND	ND	58
DP116	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
<i>Syncytia</i>									
HIV1LA1	75	ND	ND	ND	ND	ND	ND	ND	67
HIV1MN	35	ND	ND	ND	ND	ND	ND	ND	34
HIV1RF	81	ND	ND	ND	ND	ND	ND	ND	65
HIV1SF2	81	ND	ND	ND	ND	ND	ND	ND	58

FIG.4A

DP180	40	20	10	5	2.5	1.25	0.625	0.3125	Control
<i>Syncytia</i>									
HIV1LA1	50	>45	>45	>45	>45	>45	>45	>45	58
DP185	40	20	10	5	2.5	1.25	0.625	0.3125	Control
<i>Syncytia</i>									
HIV1LA1	0	0	0	0	0	0	0	ND	60

FIG.4B



<u>HIV1</u>								
Number of Syncytia/well: concentration in ng/ml (nanograms/ml)								
DP178	20	10	5	2.5	1.25	0.625	0.3125	Control
<u>Syncytia</u>								
HIV1	0	0	0	0	0	14	20	48
DP116	20	10	5	2.5	1.25	0.625	0.3125	Control
<u>Syncytia</u>								
HIV1	ND	48	ND	ND	ND	ND	ND	ND
<u>HIV2</u>								
Number of Syncytia/well: concentration in $\mu$ g/ml (micrograms/ml)								
DP178	20	10	5	2.5	1.25	0.625	0.3125	Control
<u>Syncytia</u>								
HIV2	50	54	55	57	63	77	78	76
DP116	20	10	5	2.5	1.25	0.625	0.3125	Control
<u>Syncytia</u>								
HIV2	ND	58	ND	ND	ND	ND	ND	ND

FIG.5



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

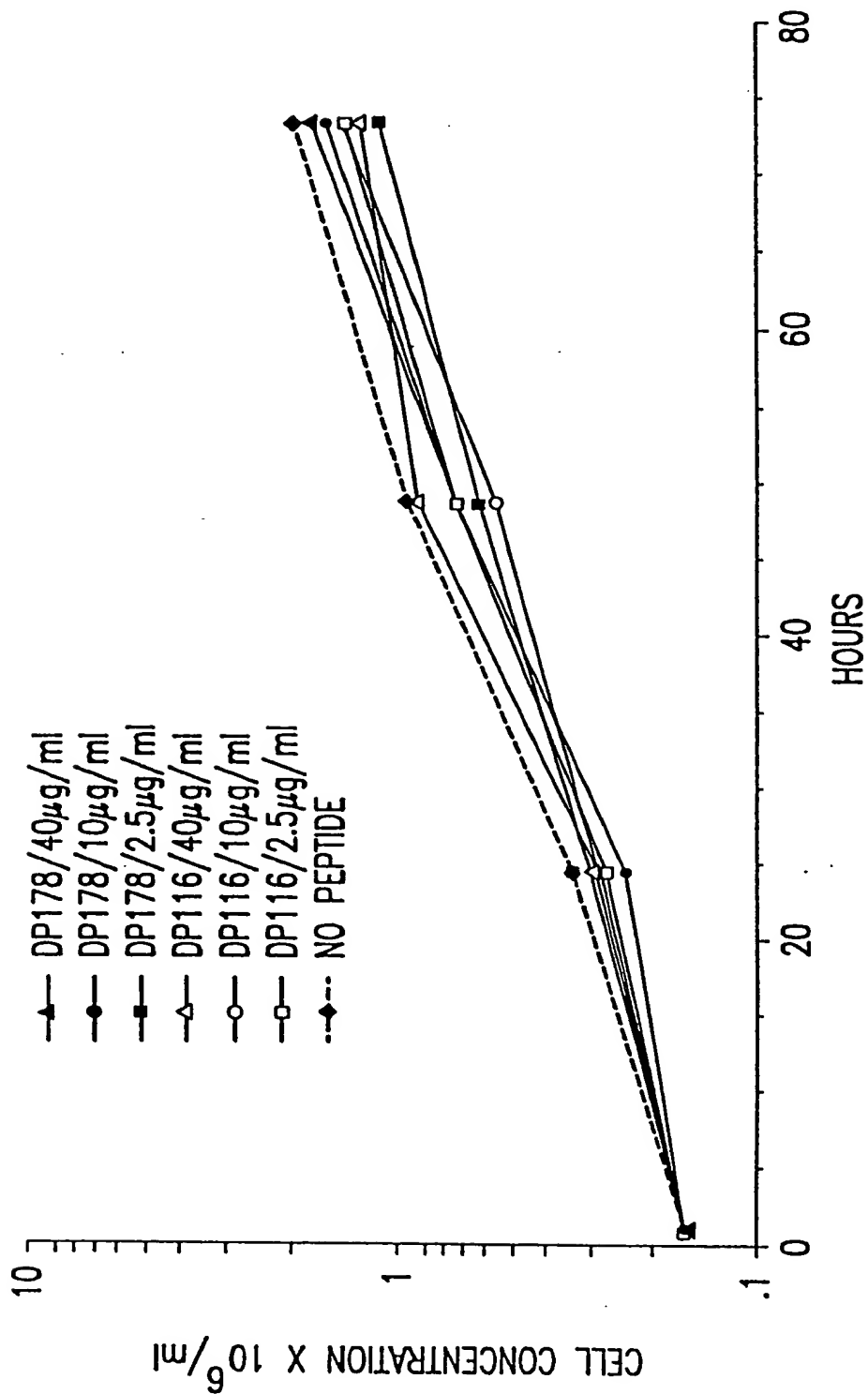


FIG.6

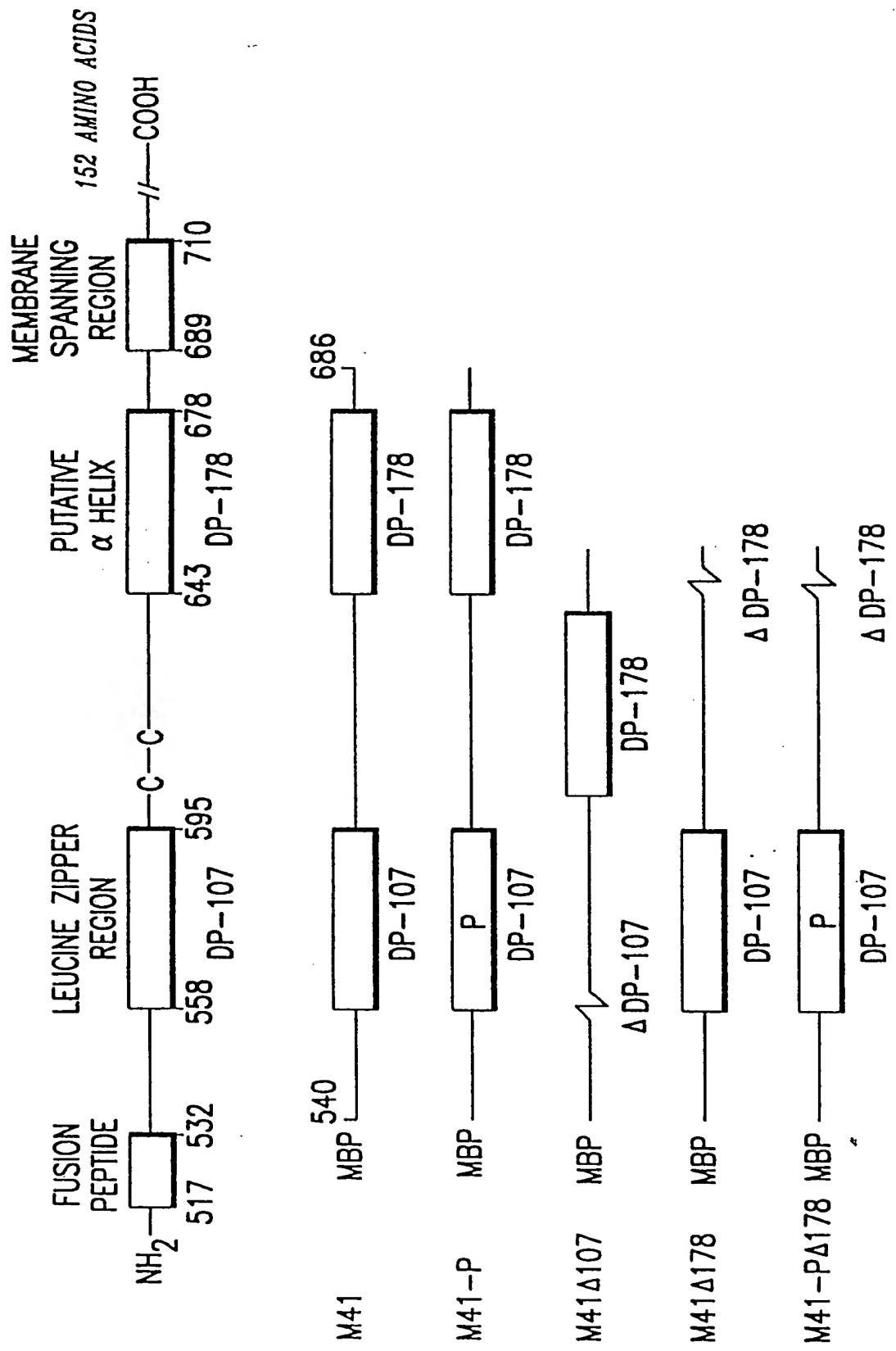
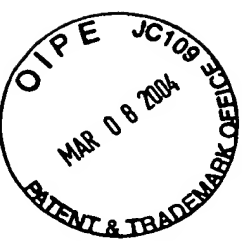


FIG.7

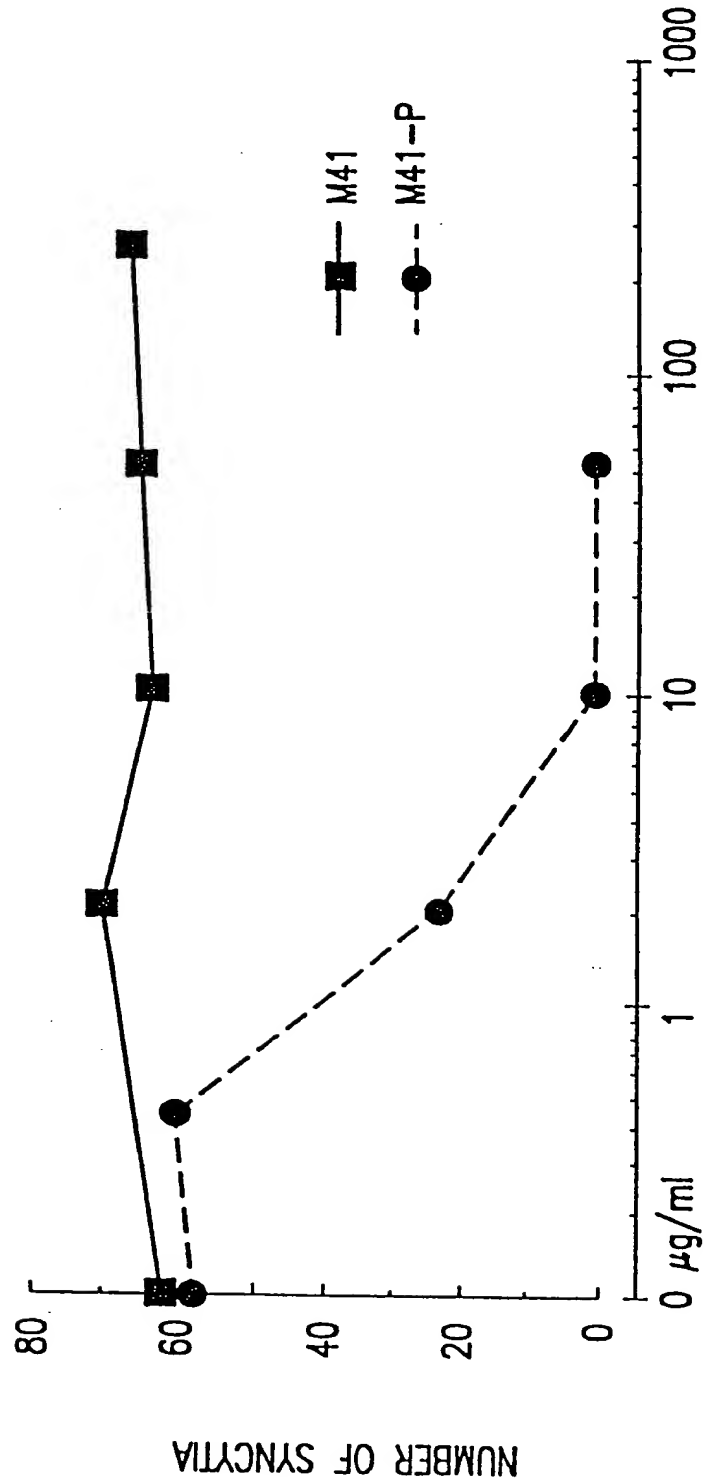
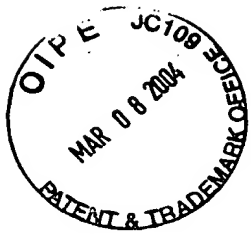


FIG.8





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

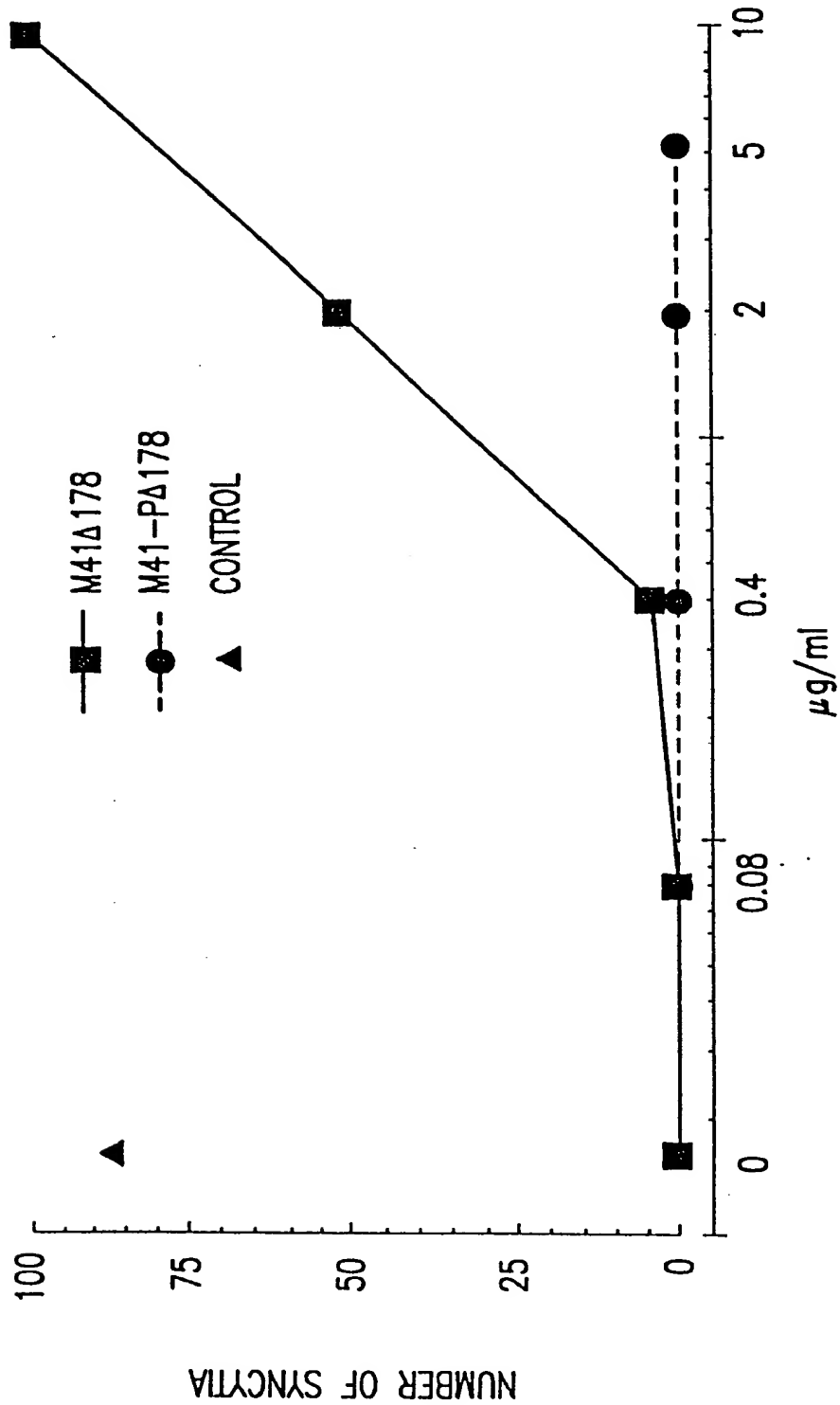


FIG.9

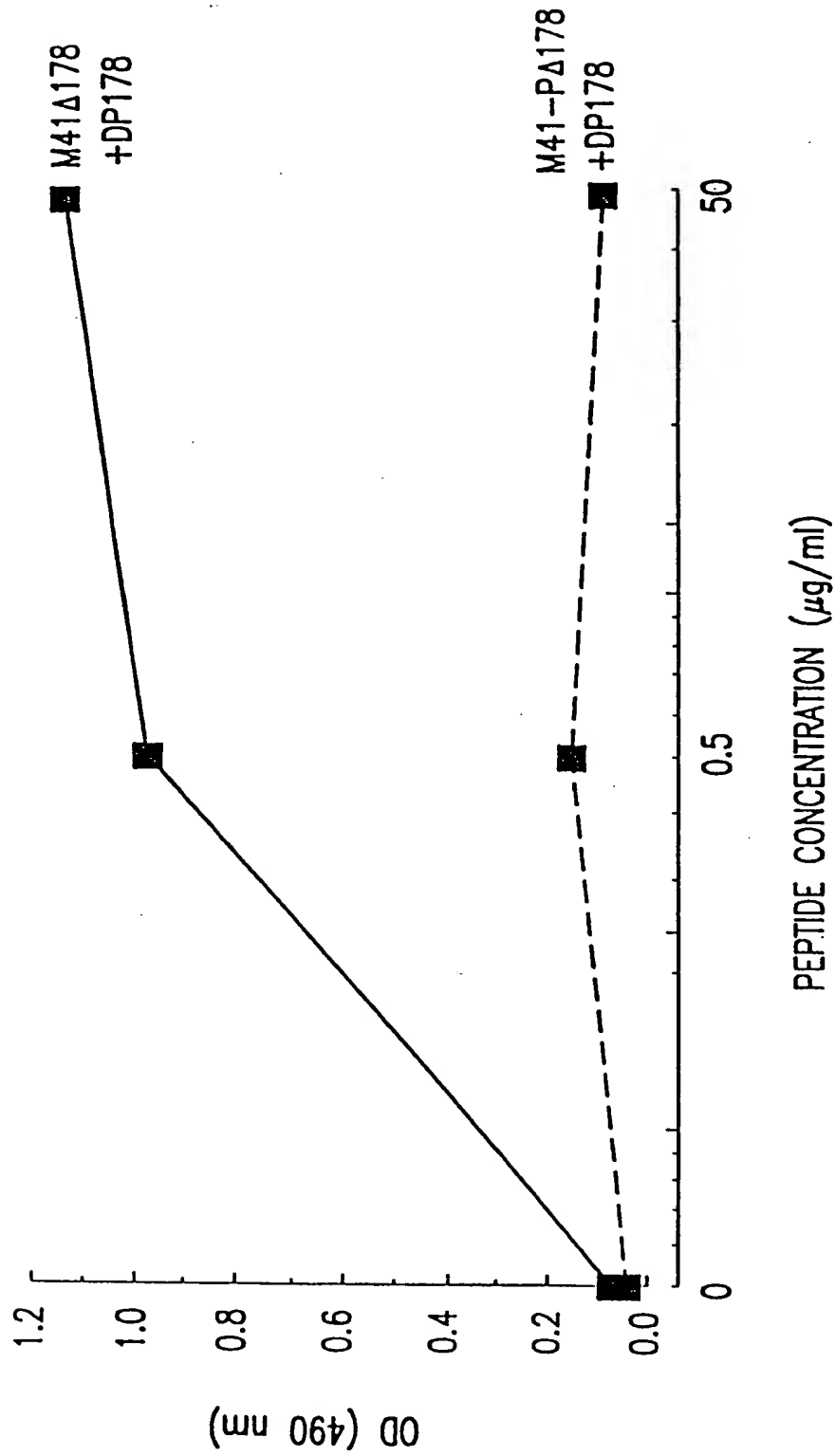


FIG.10

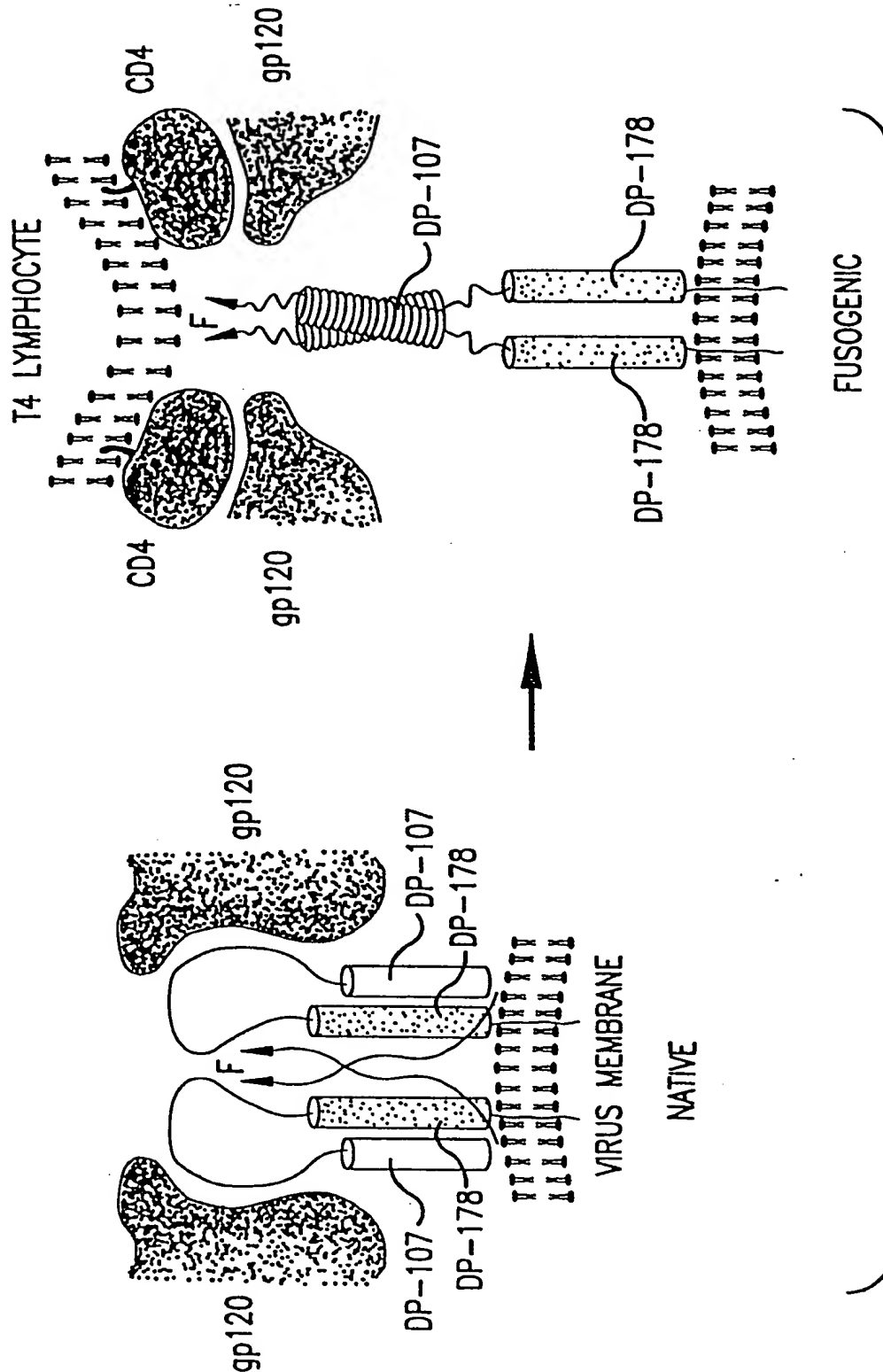
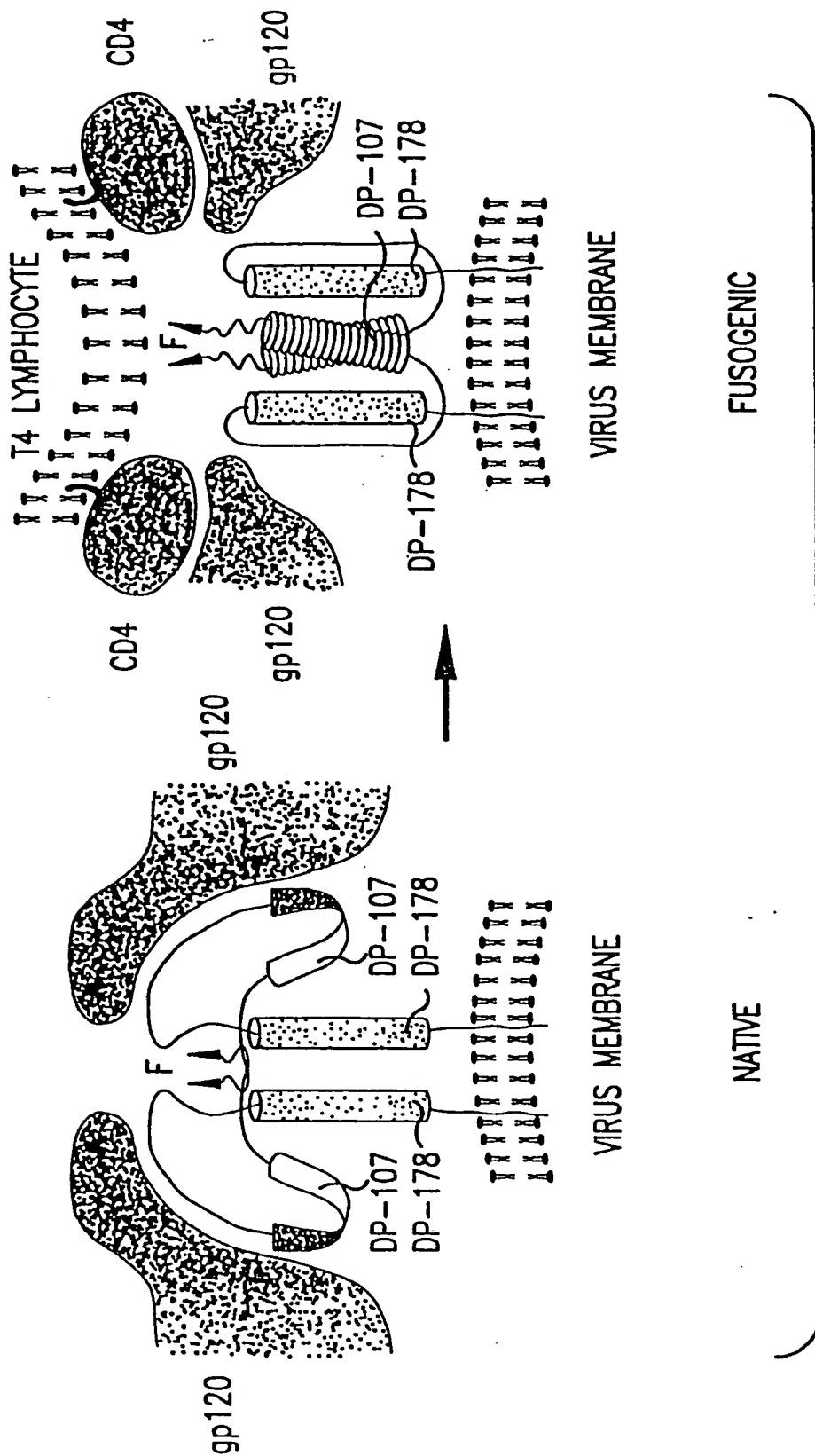
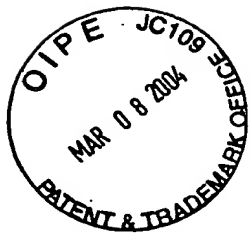


FIG.11A





Sequence	Positions												Motifs
	A	D	A	D	A	D	A	D	A	D	A	D	
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	L	{LMNV}
C-FOS (fos_human)	T	D	T	L	Q	A	E	T	D	Q	L	L	{IKLT}
C-JUN (lap1_human)	I	A	R	L	E	E	K	V	K	T	L	L	{AILNV}
C-MYC (myo_human)	E	Q	K	L	I	S	E	E	D	L	L	L	{ELR}
FLU LOOP 36	I	E	K	T	N	E	K	F	H	Q	I	E	{FILTV}

FIG.12

Sequence	A	D	A	D	A	D	A	D	A	D	A	D
DP-107 (env_hv1bru) L1=D	N N L	L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I									[I L Q T] {C F I M P S T Y}	
DP-107 (env_hv1bru) L1=D	N N L	L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I									[I L Q T V] {C D F I M P S T}	
DP-107 (env_hv1bru) L1=D	N N L	L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I									[I L Q T V] {C D F I M P S T}	K D Q
DP-107 (env_hv1bru) L2=D	N N L	L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I									{E K L N Q V} {C D F K M P S V Y}	
DP-107 (env_hv1bru) L2=D	N N L	L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I									{E K L N Q V} {C F K M P S}	
DP-107 (env_hv1bru) L2=D	N N L	L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I									{E K L N Q V} {C F K M P S}	K D Q
DP-178 (env_hv1bru) Y1=A	Y T S L	I H S L I E E S Q N Q Q E K N E Q E L L E L D K									{E K L O Y} {A C F G M P R V W Y}	
DP-178 (env_hv1bru) Y1=A	Y T S L	I H S L I E E S Q N Q Q E K N E Q E L L E L D K									{E K L O W Y} {C F G M P R V Y}	
DP-178 (env_hv1bru) Y1=A	Y T S L	I H S L I E E S Q N Q Q E K N E Q E L L E L D K									{E F K L O W Y} {C F G M P R V Y}	
DP-178 (env_hv1bru) Y1=D	Y T S L	I H S L I E E S Q N Q Q E K N E Q E L L E L D K									{E I L N Q S Y} {A C F G M P R V W Y}	
DP-178 (env_hv1bru) Y1=D	Y T S L	I H S L I E E S Q N Q Q E K N E Q E L L E L D K									{E I L N Q S W Y} {C F G M P R V Y}	
DP-178 (env_hv1bru) Y1=D	Y T S L	I H S L I E E S Q N Q Q E K N E Q E L L E L D K									{E F I L N Q S W Y} {C F G M P R V Y}	F

FIG. 13



Sequence	Positions												Parent Motif	Hybrid Motif
	A	D	A	D	A	D	A	D	A	D	A	D		
GCN4 (gcn4 yeast)	W	K	Q	L	E	D	K	V	E	E	L	L	[LMNV]	{CFGIMPSTW}
DP-107 (env_hv1bru)L1=D	N	N	L	L	R	A	I	E	A	Q	H	L	[ILQT]	{CFIMPSTY}
DP-107 (env_hv1bru)L1=D	N	N	L	L	R	A	I	E	A	Q	H	L	[ILQTV]	{CDFIMPST}
DP-107 (env_hv1bru)L1=D	N	N	L	L	R	A	I	E	A	Q	H	L	[ILQTV]	{CDFIMPST}
DP-107 (env_hv1bru)L2=D	N	N	L	L	R	A	I	E	A	Q	H	L	[EKLNV]	{CDFKMPSTY}
DP-107 (env_hv1bru)L2=D	N	N	L	L	R	A	I	E	A	Q	H	L	[EKLNV]	{CFKMP}
DP-107 (env_hv1bru)L2=D	N	N	L	L	R	A	I	E	A	Q	H	L	[EKLNV]	{CFKMP}

FIG.14

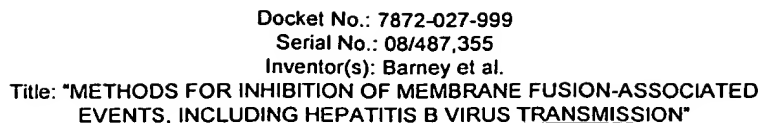


FIG. 15





Sequence	Positions												Parent Motif	Hybrid Motif
	A	D	A	D	A	D	A	D	A	D	A	D		
DP-107 (env_hv1bru) L1=D	N	N	L	R	A	I	E	A	Q	H	L	L	[ILQTV] {CDFIMPST}	[EFILNDSHY] {CFGMPRVY} [CFMP]
DP-107 (env_hv1bru) L2=D	N	N	L	R	A	I	E	A	Q	H	L	L	[EKLNV] {CFMPS}	
DP-178 (env_hv1bru) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	[EFKLCHY] {CFGMPRVY}	
DP-178 (env_hv1bru) Y1=D													[EFILNDSHY] {CFGMPRVY}	
FLU LOOP 36	I	E	K	T	N	E	K	F	H	Q	I	E	[FILTV] {ACFLMPTWH}	

FIG.16



Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Sequence	Positions												Parent Motif	Hybrid Motif		
	A	D	A	D	A	D	A	D	A	D	A	D				
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	S	K	N	[LNAV] {CFGIMP <sup>TH</sup> }	[EFIKLANQ <sup>W</sup> WY] {CFMP}
DP-107 (env_hv1bru) L1=D	N	N	L	L	R	A	I	E	A	Q	H	L	L	Q	[ILQTV] {CDFIMP <sup>ST</sup> }	
DP-178 (env_hv1bru) Y1=A	Y	T	S	L	I	M	S	L	I	E	S	Q	N	Q	[EFKLQWY] {CFGMPRVY}	
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	S	K	N	[LNAV] {CFGIMP <sup>TH</sup> }	[EFILNQRSTWVY] {CFMP}
DP-107 (env_hv1bru) L1=D	N	N	L	L	R	A	I	E	A	Q	H	L	L	Q	[ILQTV] {CDFIMP <sup>ST</sup> }	
DP-178 (env_hv1bru) Y1=D	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	[EFILNQS <sup>W</sup> WY] {CFGMPRVY}	
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	S	K	N	[LNAV] {CFGIMP <sup>TH</sup> }	[EFKLANQWY] {CFMP}
DP-107 (env_hv1bru) L2=D	N	N	L	L	R	A	I	E	A	Q	H	L	L	Q	[EKLNV] {CFKAPS}	
DP-178 (env_hv1bru) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	[EFKLQWY] {CFGMPRVY}	
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	S	K	N	[LNAV] {CFGIMP <sup>TH</sup> }	[EFILNQS <sup>W</sup> WY] {CFMP}
DP-107 (env_hv1bru) L2=D	N	N	L	L	R	A	I	E	A	Q	H	L	L	Q	[EKLNV] {CFKAPS}	
DP-178 (env_hv1bru) Y1=D	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	[EFILNQS <sup>W</sup> WY] {CFGMPRVY}	

FIG.17



Sequence	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	Parent Motif	Hybrid Motif																
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	I	V	E	E	L	L	S	K	N	Y	H	L	E	N	E	V	A	R	L	K	K	L	[LMNV] {CFGIMPTW}								
DP-107 (env_hv1bru) L1=D		N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	I	L	A	V	E	R	Y	L	K	D	Q
DP-107 (env_hv1bru) L2=D	N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q		
DP-178 (env_hv1bru) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	[EKLNOV] {CFKAPS}		
DP-178 (env_hv1bru) Y1=D																																				[EFKLQHY] {CFGMPRVY}		
C-FOS (fos_human)	T	D	T	L	Q	A	E	T	D	Q	L	E	D	E	K	S	A	L	Q	T	E	I	A	N	L	L	K	E							[EFILNDSWY] {CFGMPRVY}			
C-JUN (lap1_human)	I	A	R	L	E	E	K	V	K	T	L	K	A	Q	N	S	E	L	A	S	T	A	N	M	L	R	E	Q							[IKLT] {CFGHIMPVHY}			
C-MYC (myo_human)	E	Q	K	L	I	S	E	E	D	L	L	E	K	R	R	E	Q	L	K	H	K	L	E	Q	L	R	N	S							[AILNV] {CDFGHILPWHY}			
FLU LOOP 36	I	E	K	T	N	E	K	F	H	Q	I	E	K	E	F	S	E	V	E	G	R	I	Q	D	L	E	K	Y							[ELR] {ACFGMPVHY}			
																																				[FILTV] {ACFLMPTWH}		
																																				[AEFIKLNCRSTWY] {CFP}		
																																				{COGHP} {CFP}		

[AEFIKLMGRSTVWY] {CFP}  
= {CDGHP} {CFP}

FIG.18



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

P-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(1)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(2)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(3)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(4)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(5)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(6)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(7)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(8)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(9)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-{P}(10)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-X(1,12)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]  
P-X(13,23)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]

FIG.19



Fusion                    ♡ALLMOTIS♡  
Peptide                    ♡107x178x4♡  
♡.....ELGELG    A AGSTMGARSM TLTVQARQ ♡LLSGIVQQQ DPI07-NNL

LRAIEAQOHL LQTYWGIKO LOARILAYER YLKDO-DPI07 QLLG ♡♡ IWGC

                                 ♡107x178x4♡  
                                 ♡ALLMOTIS♡                    \*LVS Coiled-Coil\*  
SGKLICT TAVP ♡WNASWS NKSLEQIWNN MTWM \*E ♡WDREINN DPI78-

YTSLIHSL IEESONQOEK NEOELLELDK\* WASLWNWF-DPI78 NI

                                 ♦Transmembrane Region♦  
TNWLWYIK ♡ ♦IMIVGGLYGL RIVEAVLSIV NRVROGYS ♡ PL

                                 ♡P23LZIPC♡  
SFQTHLPTPR GPDR ♡PEGIEE EGGERDRDRS IRLVNGSLAL IWDDLRLSL ♡ CL

♡ALLMOTIS♡                    ♡107x178x4♡  
F ♡SYHRLRDLL LIVTRIVELL GRRGW ♡EALKY WWNLLQYWSQ

ELKNSAYSLL NAT ♡ AIAVAEG TDRVIEVVQG A ♡ CRAIRHIPR

RIRQGLERIL L

FIG. 20



Fusion                    ♡ ALLMOTIS ♡  
Peptide                   ♡ 107x178x4 ♡  
♡.....ELGEL      LGVGSAIAS GVA   ♡ YSKVLHL EGEYNKIKSA

                                 ♡P1&12LZIPC ♡  
LLSTNKAYVS LSNGVSVLTS KYLDLKNYID KQ ♡ ♡ LL   ♡PIVNKQ

                 ♡ 107x178x4 ♡  
SC ♡ SISNIETVI ♡ EFQOKNNRLLLEITREFSYNAG ♡ VTTPVSTMLTNSELLSL

                 ♡P1&12LZIPC ♡  
                 ♡ ALLMOTIS ♡  
INDM ♡PI ♡TNDQ KKLMSNNVQI V ♡ RQSYSI ♡ MS IIKEEVLAYV

VQ ♡ LPLYGVID TPCWKLHTSP LCTTNTKEGS NICLTRTDRG WYCDNAGSVS

FFPQAETCKV QSNRVFCDTM NSLTLPSEIN LCNVDIFNPK

YDCKIMTSKT DVSSSVITSL GAIVSCYGKT KCTASNKNRG

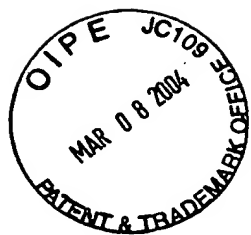
IIKTFSNGCDYVSNKGMDTV SVGNTLYYVN KQEGKSLYVK G

                 ♡P7, 12, & 23LZIPC ♡  
                 ♡ 107x178x4 ♡                   ♡ ALLMOTIS ♡  
EPIINFYDPLVF ♡PSDE ♡ EDASISQYNEKINQSLAF ♡I ♡ RKSDELL ♡

                 ♡ Transmembrane Region ♡  
HINVNA ♡ GK STTN ♡ IMITLIIVIVILLS LIAVGLLLY ♡ C ♡

KARSTPVTLS KDQLSGINNI AFSN

FIG. 21



Fusion  
Peptide      ♥ALLMOTIS♥      ♣107x178x4♣  
.....ELGFLG      ♥AAGTA MGAAA      ♣TALTVQSQHLLAGILOQQOKNLLAAY

♣107x178x4♣  
EAQ♣ QQM ♣LKLTIWGVKNLNARVTALEKYLEDAQRLN♣ AWG♥ CA

\*LVS Coiled-Coil\*  
♥ALLMOTIS♥      ♣107x178x4♣  
WKQVCHTTVP WQWNNRTPDW ♥NNMT \*WLE ♣WERQISYLEGNIT

♣107x178x4♣  
TOLEEARAQEEKNLD♣ AXOKLSS\* WSDFWWS♥ FDF ♣SKWLN ♦ILK

♦Transmembrane Region♦  
IGELDYLGIIGLRLLXTY♦ XS♣ CIARVRQGYSP LSPQIHHP WKGQPDNAEG

PGEGGDKRKN SSEPWQKESG TAEWKSNEWCK RLTNWCSISS IWLYNS

♥ALLMOTIS♥  
♥CLTL LVHLRSAFQY IQYGLGELKA AAQEAVVALA RLAQNAGYQIWL♥

ACRSAYRA IINSPRRVRQ GLEGILN

FIG. 22



Fusion  $\spadesuit$ 107x178x4 $\spadesuit$   
Peptide  $\heartsuit$ ALLMOTI5 $\heartsuit$   $\spadesuit$ LVS Coiled-Coil $\spadesuit$   
.....EAG  $\heartsuit$ YYL AGVALGVATA AQITAGIALHQ  $\spadesuit$ \*SNLNAQAIQ

SLRTSLEQSNKAIEEIREATQETVIA\* VOGVQDY $\spadesuit$  VNNEL $\heartsuit$  VP

$\heartsuit$ ALLMOTI5 $\heartsuit$   
 $\spadesuit$ 107x178x4 $\spadesuit$   
 $\spadesuit$ P6 & 12LZIPC $\spadesuit$   
AMQHMSCELVGQRLGLRLLRYYTELLSIFGPSLRD  $\spadesuit$ PISA  $\spadesuit$  $\heartsuit$ EISIQALIXAL

GGEIHKILEKLGYSGSD $\spadesuit$  MIALESRGIKTKI $\heartsuit$  THVDLPGKF ILSISY

$\spadesuit$ P1 & 12LZIPC $\spadesuit$   
 $\spadesuit$ PTLSEVKGVIVHRLEAV $\spadesuit$  SYNIGSQEWYTTVPRYIATNGYLISNFDESSCVFVS

ESAICSQNSL YPMSPLLQQC IRGDTSSCAR TLVSGTMGNK FILSKGNIVA

NCASILCKCY STSTINQSP DKLLTFIASD TCPLVEIDGA TIQVGGRQYP

\*LVS Coiled-Coil\*  
 $\heartsuit$ ALLMOTI5 $\heartsuit$   
 $\spadesuit$ P12 & 23LZIPC $\spadesuit$   
DMVYEGKVAL G  $\spadesuit$ PAISLD  $\heartsuit$ RL\*DVGTNLGNALKKLDDAKVLI $\spadesuit$

$\spadesuit$ Transmembrane Region $\spadesuit$   
DSS $\spadesuit$  NQILETYRRS $\heartsuit$ \* SFN  $\spadesuit$ EGSLLSVPILSCTALALLLIYCC $\spadesuit$

K RRYQQTLKQH TKVDPAFKPD LTGTSKSYVR SL

FIG. 23





Fusion ♥ ALLMOTIS ♥  
Peptide ♣ 107x178x4 ♣  
♥ ..... EIGAI IGSVALGVA TAAQITAASA LIQANQNAAN ♣ ILRLKESITA

TIEAVHEVTDGLSOLAVA ♣ VG KM ♥ QQFVNDQFNNTAQELDCIKITQQV

♥ ALLMOTIS ♥  
GVELNLYLTELT TV FGPQITSPAL ♥ TQLTIQALYNAGGNMDYLLTKLGVG

♣ P1 & 12LZIPC ♣  
NNQLSSLIGSGLIT GN ♥ ♣ PILYDSQT QLLGIQVTLP SVGNLNNMRATYLET

LSVST TKGFASALVP KVV TQVGSVI EELDTSYCIE TDLDLYCTRI VTFFPMSPGIY

SCLNGNTSAC MYSKTEGALT TPYMTLKGSV IANCKMTTCR CADPPGIISQ

♥ ALLMOTIS ♥  
♣ 107x178x4 ♣  
NYGEAVSLID RHSCN ♣ ♥ VLSLD GITRLSGEF DATYQKNISI LDSQVIVTG

\*LVS Coiled-Coil\* ♣ Trans-  
\*NLDISTELGNV NNSISNALDK LEESNSKLDK VNVKLTSTSA ♣ LIT\* YIA

membrane Region ♣  
LTAISLVCGILSLV ♥ ♣ LACYLMY ♣ KQKAQQKTLLWLGNNTLGQMRATTKM

FIG. 24



Fusion                    ♡ALLMOTIS♡  
Peptide               ♡107x178x4♡    \*LVS Coiled-Coil\*  
.....EEGGY       ♡IG ♡TIALG \*YATSAQITAAYALVEAKQARSDIEKLKE

AIRDTNKA VQSVQSSIGNLI VAIKSVQ\* DYVNKE ♡ ♡ IVPSIARLGCEAAG

♡ALLMOTIS♡  
♡107x178x4♡  
LQLGIALTQH ♡ ♡YSELTNIFGDNIGSLOEKGIKLOGIASLYRTNITE ♡ ♡

♡P5 & 12LZIPC♡  
IFTTSTVDKYDIYDLLFTESIKVRVIDVDLNDYSITLQVRL ♡PLLTRLNTQIYR

VDSISYNI ♡ QNREWYI ♡ PLPSHIMTKGAFLGGADVKECIEAFSSYIC

PSDPGFVLNHEMESCLSGNISQCPRTVVKSDIVPRYAFVNGGVVANCITT

TCTCNGIGNRINQPPDQGVKIITHKECNTIGINGMLFNTNKEGTLAFYTP

♡ALLMOTIS♡  
♡107x178x4♡  
♡P6 & 23LZIPC♡  
NDITLNNSVALD ♡PIDI ♡SIELN ♡KAKSDLEESKEWI ♡ RRSNOKL ♡

♡Transmembrane Region♡  
DSIGNWHQSSTT ♡IIIV ♡ LIM IILFIINVT II ♡ IIAVKYY ♡ R  
IQKRNRVDQN DKPYVLTNK

FIG. 25



Fusion  
Peptide  
.....GLEGAI AGFIENGWEGMIDGWYGFRIHQNSEGTG

♣107x178x4♣  
▼ALLMOTI5▼  
\*LVS Coiled-Coil\*  
\*Q ▼AADLKST ♣QAADQINGKLNRVIEKTNEKTHQIEKEESEYEGRIQ  
  
DLEKYVEDTKIDL\* WSYNAELLYALENQHTI♣ DLT▼ DSEMKNLFETR  
  
RQLRENAEEMGNGCFKIYHKCDNACIESIRNGTYDHDVYRDEALNNRFQIKG  
  
VELKSGYKDWILWISFAISCFLLCVLLGFIMWACQQRGNIRCNICI

FIG. 26

[illegible]

**FIG. 27A**



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

			FUSION ARRAY	
			PURIFIED	
			IC50 (XTT)	
	RSV F2	AV	( $\mu\text{g/ml}$ )	CD
	T-142	++	39	++
	T-143	++	31	+++
	T-144	+	114	++
	T-145	++	40	+
	T-146	-	281	-
	T-147	-	204	-
	T-148	-	354	-
	T-149	-	336	-
	T-150	-	342	+
	T-151	+/-	116	+
	T-152	+/-	117	++
	T-153	-	280	+
	T-154	+/-	118	++
	T-155	-	253	+

FIG.27B

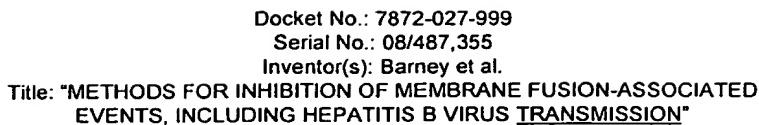
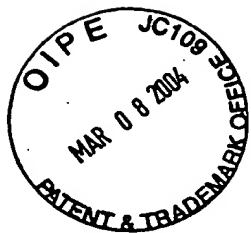


FIG. 27C

[illegible]

FIG. 27D



Docket No.: 7872-027-999

Serial No.: 08/487,355

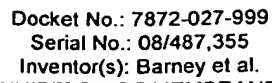
Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

			FUSION ASSAY	
			PURIFIED	
	RSV		IC50 XTT	
	F-107	AV	( $\mu\text{g/ml}$ )	CD
	T-120	-	204	-
	T-121	-	354	-
	T-122	-	347	-
	T-123	+/-	126	-
	T-124	+	95	-
	T-125	+	84	-
	T-126	+	89	-
	T-127	+	89	-
	T-128	-	206	-
	T-129	-	343	-
	T-130	-	177	-
	T-131	+/-	118	-
	T-132	-	272	-
	T-133	+/-	307	-
	T-134	+/-	187	-
	T-135	+	60	-
	T-136	-	194	-
	T-137	+	99	-
	T-138	++	38	-
	T-139	+	86	+/-
	T-140	-	160	+/-
	T-141	-	204	+/-

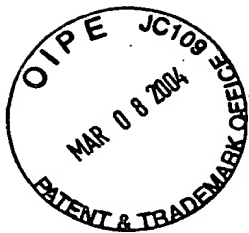
FIG.27E





RSV	PEPTIDE#	AVG. IC50 (XIT) µg/ml
T-12	VVSL SNGVSVLTSKVL D L K N Y I D K Q L L	>500
T-13	LL S T N K A V V S L S N G V S V L T S K V L D L K N Y	>500
T-15	V L H L E G E V N K I K S A L L S T N K A V V S L S N G	>500
T-19	LL S T N K A V V S L S N G V S V L T S K V L D L K N Y	>500
T-28	A S G V A V S K V L H L E G E V N K I K S A L L S T N K A V V S L S N G V	>500
T-29	S G V A V S K V L H L E G E V N K I K S A L L S T N K A V V S L S N G	327
T-30	V L H L E G E V N K I K S A L L S T N K A V V S L S N G V S V L T S K	328
T-69	V V S L S N G V S V L T S K V L D L K N Y I D K Q L L	292
T-70	V N K I K S A L L S T N K A V V S L S N G V S V L T S K	349
T-66	N D Q K K L M S N N V Q I V R Q Q S Y S I M S I I K E E	>500
T-576	S I S N I E T V I E F O O K N N R L L E I T R E F S V N A G V T T P V S	>100





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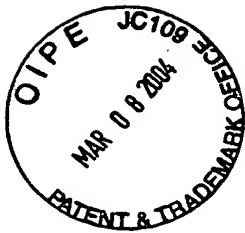
Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

		FUSION ASSAY	
		PURIFIED	
RSV	AV	IC50 ( $\mu\text{g/ml}$ ) (XTT)	CD
T-67	++	37	+/-
F1-178			
T-104	+	95	
T-105	+	86	
T-106	-	186	
T-107	++	20	
T-108	+++	6	
T-109	+++	8	
T-110	++	30	
T-111	+++	9	
T-112	+++	8	+/-
T-113	+++	6	+/-
T-114	+++	5	+/-
T-115	+++	6	+/-
T-116	+++	9	+/-
T-117	+++	14	+/-
T-118	+++	5	+/-
T-119	+++	6	+/-

FIG.28B





Docket No.: 7872-027-999

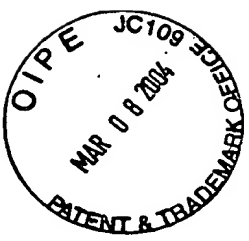
Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HP1V3 DP107-LIKE REGION(F1)											
	HPF3 107					G	T	I	A	L	G
	157								A	L	G
	158									L	G
	159									G	V
	160										V
	161										A
	162										T
	163										S
	164										A
	165										Q
	166										I
	167										T
	168										A
	169										A
	170										V
	171										A
	172										L
	173										V
	174										E
	T-40										A
	175										K
	176										Q
	177										A
	178										R
	179										S
	180										D
	181										I
	182										E
	183										K
	184										L
	185										K
	186										E
	187										E
	188										E

FIG.29A



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

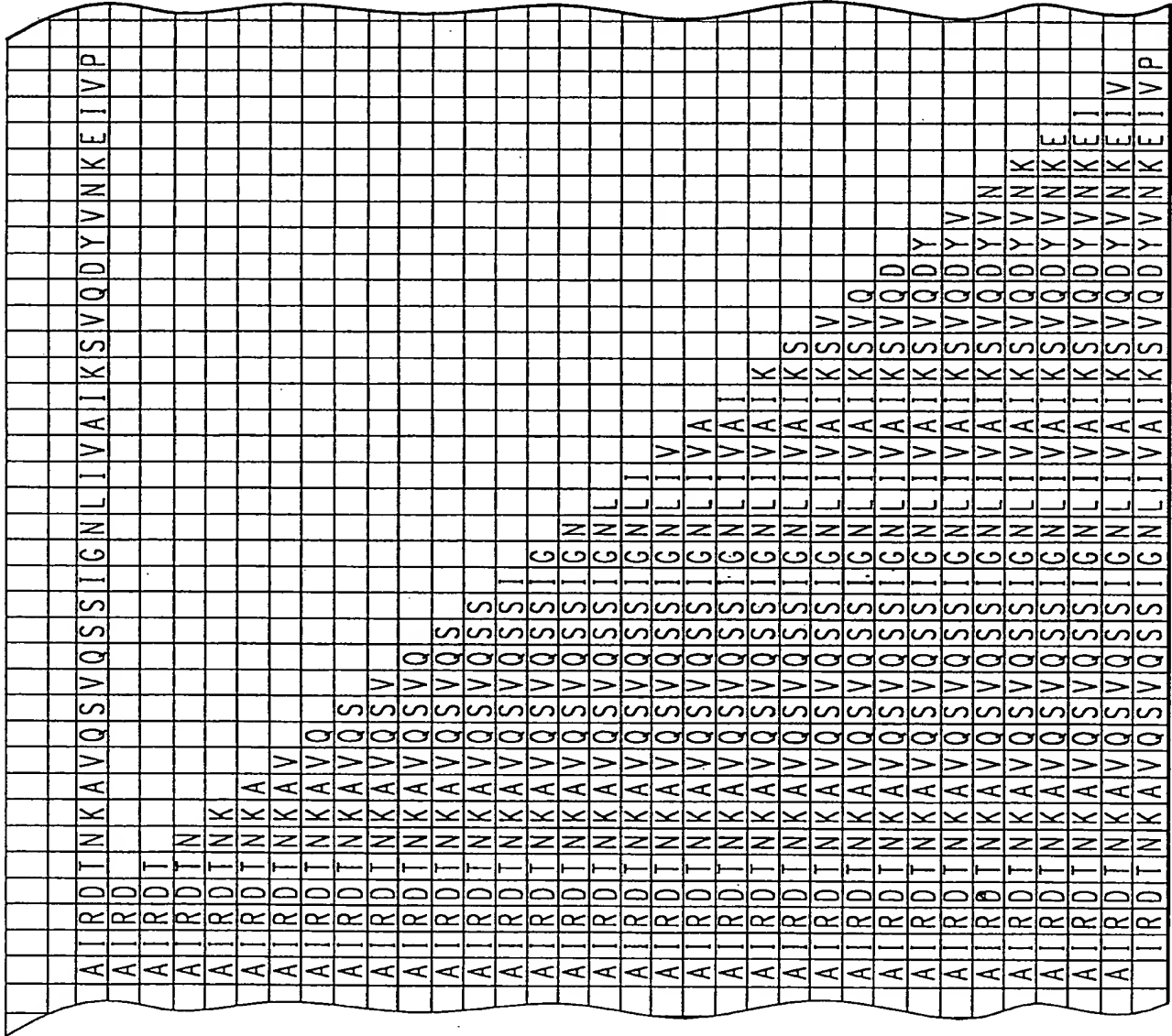
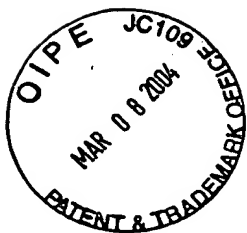


FIG. 29B



Docket No.: 7872-027-999

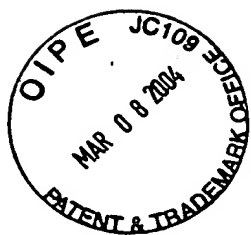
Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HPV3 107	AV	IC50 (UG/ML)	CD
157	-	574*	+
158	-	146*	+
159	-	707*	+
160	-	536*	+
161	-	390*	+
162	-	403*	+
163	-	123*	+
164	-	512.067*	+++
165	-	742*	-
166	-	540*	-
167	-	215*	-
168	-	680*	-
169	-	137*	-
170	-	456*	-
171	-	437*	-
172	+	63*	-
173	++	30*	-
174	+	56*	++
T-40	+/-		+++
175	+/-	110*	++
176	-	197.75*	+++
177	-	350*	+
178	++	30*	+
179	-	295*	-
180	-	732*	-
181	-	929*	-
182	-	707*	-
183	-	218.50*	++
184	+	67.8*	+++
185	-	542*	-
186	-	613*	-
187	-	152*	-
188	-	669*	-

FIG.29C



**Docket No.: 7872-027-999**

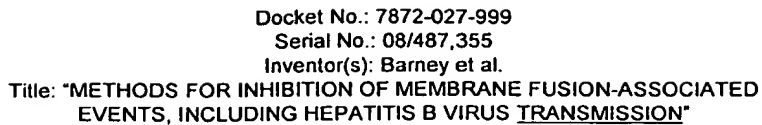
Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

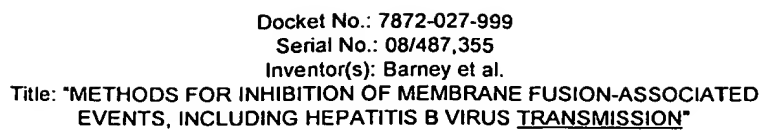
[illegible]





[illegible]

FIG. 30A



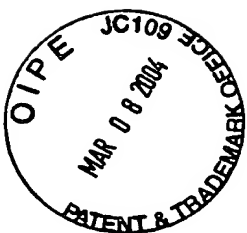
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

[illegible]

T-626	205 MUTANT	IDISIELNKAKSDLEESKEWIKKSNIQKLDSIGNWH	209.589NG/ML
-------	------------	--------------------------------------	--------------

[illegible]

FIG. 30C



FUSION  
PEPTIDE  
.....RNKRGVFVLGFLGFLATAGSAMGAAS ♠♥ XXXXAQSRTLLAGIVOOOOO

LLDVVKROOELLRLTVWGTKNLQTRVTAIEKYLKDOAQL♠NAWG♥ CAF

♥ALLMOTIS♥  
\*LVS PREDICTED COILED-COIL  
RQVCHTTVPWPNASLTPDW \*NND ♥TWQEWERKVDFFLEENITALLEEAIQQ

♠107x178x4♠  
EKNMY ♠ELOKLNSWD\* VF♥ GNXXXXXXXXXXXXXXXXXXXXXXXXXXXXX♠

IYIVMLAKLRQGYRPVFSSPPSYFQXTHTQQDPALPTREGKEGDGGEGGGNSSWP  
WQIEYIHF

FIG. 31



MTRRRVLSVVLLAALACRLGAQTPEQPAPPATTVQPTATRQQTSPFRVCELSSHGDLFRFSSD

♠ 107x178x4♠

IQCPSTGTRENHTEGLLMVFKDNIIPYSF ♠ KVRSYTKIVTNILYNGWYADSVNRHE♠

EKFSVDSY ETDQMDTIYQ CYNVAKMTKD GLTRVYVDRD GVNITVNLKP TGGLANGVRR

YASQTELYDA PGWLIWYRT RTTVNCLITD MMAKSNPFDF FVTTTGQTV EMSPFYDGKN

KETFHERADS FHVRTNYKIV DYDNRGTNPQ GERRAFLDKG TYTLSWKLEN RTAYCPLQHW

QTFDSTIATE TGKSIHFVTD EGTSSFVTNT TVGIELPDAF KCIEEQVNKT HEKYEAVQD

RYTKGQEAIT YFITSGGLLL AWLPLTPRSL ATVKNLTELT TPTSSPPSSP SPPAPSAARG

STPAAVLRRR RRDAGNATTP VPPTAPGKSL GTLNNPATVQ IQFAYDSLRR QINRMLGDLA

RAWCLEQKRQ NMVRELTKI NPTTVMSSIIY GKAVAAKRLG DVISVSQCVP VNQATVTLRK

SMRVPGSETM CYSRPLVSFS FINDTKTYEG QLGTDNEIFL TTKMTEVCQA TSQYYFQSGN

♠ 107x178x4♠

EIHVYNDYHH FKTIELDGIA TLQTFISLNT ♠ SLIENIDFASLELYSRDEQRASNVFD \*LE♠

\*LVS PREDICTED COILED COIL\*

TM Potential

GIFREYNFQAQNIAGLRKDLDNAVSN\* GRNQ FVDGLGELMDSLGSVG QSITN

♣ P12LZIPC♣

TM Potential

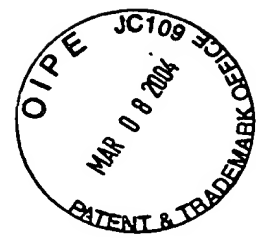
TM Potential

LVSTVGGLFSSLVSGFISF FK N ♣ PFGGMLILVLVAGVVILVISL♣ TRRTRQMS

QQPVQMLYPG IDELAQQHAS GEGPGINPIS KTELQAIMLA LHEQNQEQR AAQRAAGPSV

ASRALQAARDRFPGLRRRRY HDPETAAALL GEAEETF

FIG. 32



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MMDPNSTSED VKFTDPYQV PFVQAFDQAT RVYQDLGGPS QAPLPCVLWP VLPEPLPQGQ

LTAYHVSTAP TGSWFSAPQP APENAYQAYA APQLFPVSDI TQNQQTNQAG GEAPQPGDNS

TVQTAAAVVF ACPGANQGQQ LADIGVPQPA PVAAPARRTR KPQQPESLEE CDSELEI

@DNA BINDING@

♠107x178X4♠

+DIMERIZATION+

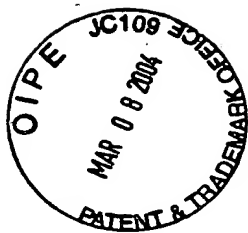
@KRY KNRVASRKCRAK

♠EK@ Q

+LLOHYREVAAAKSSENDRLRLLLKQ♠

MCPSLDVD+ SI IPRTDVLHE DLLNF

FIG. 33



FUSION  
PEPTIDE  
FAG

♥ALLMOTI5♥

\*LVS COILED-COIL\*♥VVLAGAALGVATAAQITAGIALHQSM\*NSQAIDNLRASLETTNQAIEAIROAGOEMI\*LAVQGVQDYINN♥ ELIPSMNQLSCDLIGQKLGLKLLRYYT

♣P23LZIPC♣

♣P6,12LZIPC♣

♠107X178X4♠

♥ALLMOTI5♥

EILSLFGPSLRD ♣PISA ♠♥EISIQLSYALGGDINKV♣ LEKLGYSGGDL♣

♣P1,12LZIPC♣

LGILES♠ RGIKARI♥ THVDTESYFIVLSIAY ♣PTLSEIKGVIVHRLEGV♣ SY

NIGSQEWYTTVPKYVATQGYLISNFEDESSCTFMPEGTVCSQNALYPMSPLLQECL

RGSTKSCARTLVSGSFGNRFILSQGNLIANCASILCKCYTTGTIINQDPDKILTYIAA

♣P23LZIPC♣

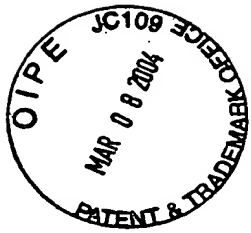
♣P12LZIPC♣

♥ALLMOTI5♥

\*LVS COILED-COIL\*DHCPVVEVNGVTIQVGSRRYPDAVYLHRIDLGP ♣P ♥IS \*LERLDVGTNLGN♦TRANSMEMBRANE REGION♦AIAKLEDAKELL♣ ESSDOI\*L♣ RSMK ♦GLSSTSIVYILI♥ AVCLGGLIGIPALICCC♦ RGRCNKKGEQVGMSRPGLKPDLTGTSKSYVRS�

FIG. 34





Pre S1 and Pre S2

MGQNLSTSNPLGFFPDHQLDPAFRANTANPDWDFNPNKDTWPDANKVGAGAFG

LGFTPPHGGLLGWSPQAQGILQTLPANPPPASTNRQSGRQPTPLSPPLRNTHPQAM

QWNSTTFHQTLQDPRVRGLYFPAGGSSSGTVNPVLTITASPLSSIFSRIGDPALN

MAJOR SURFACE ANTIGEN(HBs)

FUSION

PEPTIDE

♣P12 & 23LZIPC♣

MENITSG FLG ♣PLL VLQAGFFLLTRILT♣ PQSLDSWWTSLNFLGGTTVCLG

♣P12 & 23LZIPC♣

QNSQSPTSNHSPTSCPPTC ♣PGYRWMCLRRFIIFLLCLIFLLVLLDYQGML♣

PVCPLIPGSSTTSTGPCRTCMTTAQGTSMYPSCCCTKPSDGNCTCIPSSWAFGKF

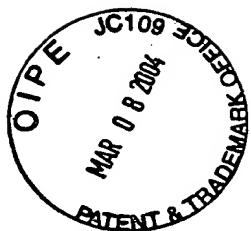
♦TRANSMEMBRANE REGION♦

LWEWASARFSWLS ♦LLVPFYQWFVGLSPTVWLSVI♦ WMMWYWGPSL

♦TRANSMEMBRANE REGION♦

♦YSILSPFLPLLPIFFCLWVYI♦

FIG. 35



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FUSION ♥ ALLMOTIS ♥ ♠107x 178x4♠  
PEPTIDE \*LVS COILED COIL  
AIQLIPLFVG LGI ♥TTAVSTGAAGLGVS ♠IT \*QYTKLSHQLISDV

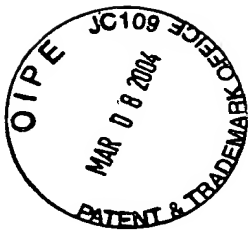
QAISSTIQDLQDOVDSLAEVVLO\* NRRGLDLLTAE♠ QGGI♥

CLALQEKCCFYANKSGIVRDKIKNLQDDLERRRRQLIDNPFWTSFHG

FLPYVMPLLGPLLCLLLVLSFGPIIFNKLMTFIKHQIESIQAKPIQVHYH

TRANSMEMBRANE REGION  
RLEQEDSGGSYLTLT.....?????????????????????????.....

FIG. 36



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKAQKGFTLI ELMIVVAIIG ILAAIAPGQ

♠107x178x4♠

♥ALLMOTIS♥

♠♥YODYTARTQVTRAYSEYSALKTAAESAILEGKEIYSSA♠ T♥

PK DTQYDIGFT

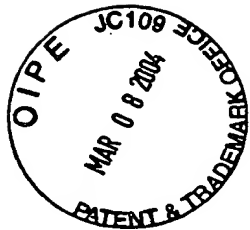
♠107x178x4♠

♥ALLMOTIS♥

♠♥ESTLLDGSGKSOIQVTDNODGTVELVATLGKSSGS♠ AIKGAVITSR♥

KNDGV WNCKITKTPT AWKPNYAPAN CPKS

FIG. 37



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MNTLQKGFTL IELMIVIAIV GILAAVALPA YQDYTARAQV

SEAILLAEGQ KSAVTEYYLN HGIWP

♠107x178x4♠

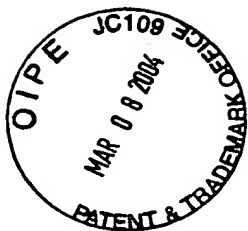
♥ALLMOTI5♥

♠♥KDNTSAGVASSSIKGYVKEVKVENG VVTAT♠

MNSSNVNKEIQGKKLSLWAKRQDGSVKW♥

FCGQP VTRNAKDDTV TADATGNDGK IDTKHLPSTC RDNFDAS

FIG. 38



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKKTLLGSLI LLAFAGNVQA DINTETSGKV TFFGKVVENT

CKVKTEHKNL SVVLNDVGKN SLSTKVNTAM PTPFTITLQN

CDPTTANGTA NKANKVGLYF Y

♠107x178x4♠

♥ALLMOTI5♥

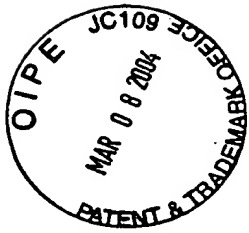
♠♥SWKNVDKENNETLKNEOTTADYATNVNI♠

QLMESNGTKAISVVGKETE♥

DF MHTNNNGVAL NQTHPNNAHI SGSTQLTTGT NELPLHFIAQ

YYATNKATAG KVQSSVDFQI AYE

FIG. 39



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MNKKLLMNFF IVSPLLLATT ATDFTPVP

♠107x178x4♠

♥ALLMOTI5♥

♠♥LSSNOIKTAKASTNDNIKDLLDWYSSGSDTFTNS♠♥

EVLDNSL GSMRIKNTDG SISLIIFPSP YYSFAFTKGE KV

♠107x178x4♠

♠DLNTRKRTKKSOHTSEGTYIHFOISGVT♠

N TEKLPTPIEL PLKVKVHVKD SPLKYG

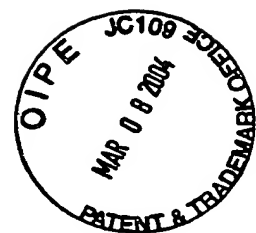
♣P12LZIPC♣

♣PKFDDKKQLAISTLDFEIRHQLTQI♣

HGLYRSSDKT GGYWKITMND GSTYQSDLSK KFEYNTKPP

INIDEIKTIE AEIN

FIG. 40



MKKTAFILLL FIALTLTTSP L ♡ALLMOTI5♡  
♡VNG

♠107x178x4♠  
\*LVS PREDICTED COILED-COIL\*  
\*S ♠EKSEEINEKDLRKKSELORNALSNLROIY\* YYNEKAITENKESDD♠

QFLENTLL♡ FKG FFTGHPW

♠107x178x4♠  
♠YNDLLVDLGSKDATNKYKGKKVDLYGAY♠

YGYQCAGGTPNKTACMYGGVTLHDN NRLTEKKVP INLWIDGKQTTV

♣P12LZIPC♣  
♣PIDKVKTSKKEVTVQELDL♣ QARHYLHGK FGLYNSDSFGGKVQ

♣P12LZIPC♣  
RGLIVF HSSEGSTVSY DLFDAQQQY ♣P DTLRIYRDN KTINSENLHI♣

DLYLYTT

FIG. 41



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

♥ALLMOTIS♥

MKKTAFTLLL FIALTLTTSP L ♥VNGS

♠107x178x4♠

♠EKSEEINEKDLRKKSELOGTALGNLKOIYYYNEKAKTENKESHD♠ Q♥

FLQHTILFKG FFTDHSWYND LLVDFDSKDI VDKYKGKKVDLYGAYY

GYQC AGGTPNKTAC MYGGVTLHDN NRLTEKKVPINL WLDGKQNTV

♠107x178x4♠

♥ALLMOTIS♥

♣P12LZIPC♣

♣P ♥L ♠ETVKTNNKKNVTVOELDLOARRYL♣ QEKYNLYN♠

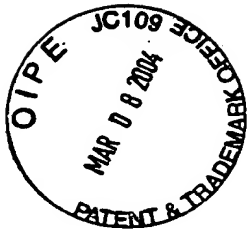
SDVFDGKVQR♥ GLIVF HTSTE

♣P23LZIPC♣

♣PSVNYDLFGAQQQYSNTLLRIYRDNKTINSENMIH♣ DIYLYTS

FIG. 42





MKNITFIFILLASPLYANGDRLYRADSRPPDEIKRFRSLMPRGNEYFDRGT

♥ALLMOTI5♥  
♥QMNLNLYDHARGTQTGFVRYDDGYV

♠107x178x4♠  
♠STSLSLRSAHLA GOYILSGYSLTIYIVI♠ ANMFNVNDVISVY♥

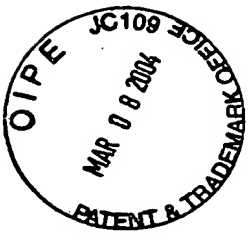
SP HPYEQEVSA LGGIPYSQIYG WYRVNFGVID ERLHRNREYR

DRYYRNLNIA PAEDGYRLAG FPPDHQAWRE EPWIIHAPQG

CGDSSRTITG DTCNE

♥ALLMOTI5♥  
♥ETQNLSTIYLREYQSKVKRQIFSDYQSEVDIYNRIRDEL♥

FIG. 43



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MMFSGFNADY EASSSRCSSA SPAGDSLSSYY HSPADSFSSM

GSPVNAQDFC TDLAVSSANF IPTVTAISTS PDLQWLVPQA

LVSSVAPSQT RAPHFPGVPA PSAGAYSRAG VVKMTMTGGRA

\*LVS PREDICTED COILED-COIL\*  
QSIGRRGKVE QLSPEEEEEKR RIRRE \*RNKMA AAK

♠107x178x4♠

♥ALLMOTIS♥

♥CRNRRREL ♠TDTLQAETDOLEDEKSALOTEIANLLKEKEKL♥

EFILAAHR\* PACKIPDDL GFPEEMSVAS LDLTGGLPEV

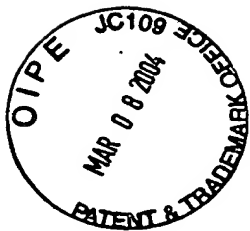
ATPESEEAFT LPLLNDPEPK PSVEPVKSIS SMELKTEPFD

DFLFPASSRP SGSETARVSP DMDLSGSFYA LPLLNDPEPK

PSVEPVKSIS SMELKTEPFD DFLFPASSRP SGSETARVSP

DMDLSGSFYA GSSSNEPSSD SLSSPTLLAL

FIG. 44



SGWESYYKTEGDDEEAEEEQEENLEASGDYK YSGRDSLIFLVDASKA  
MFESQSEDELTPFDMSIQCIQSVYISKIISSDRDLLAVVFGTEKDKNS  
VNFKNIIYVLQELDNPGAKRILELDQFKGQQGQKRFQDMMGHGSDY  
SLSEVLWVCANLFSVDVQFKMSHKRIMLFTNEDNPHGNDSAKASRAR  
TKAGDLRDTGIFLDMHLKKPGGFDISLFYRDIISIAEDED

♠107x178x4♠

♥ALLMOTIS♥

\*LVS PREDICTED COILED-COIL\*

♥LRVH \*FEE ♠SSKLEDLLRKVRAKETRKRAISRLKCLKLNKDIV\* ISV

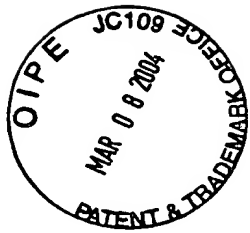
GIYNLVQKAL♥ KPPPIKLYRETN♠ EPVKTKTRTFNTSTGGLLLPSDTR

SQIYGSRQIILEKEETEELKRFDDPGLMLMGFKPLVLLKKHHLRPSLFFVYPE  
ESLVIGS STLFSALLIKCLEKEVAALCRYTPRRNIPPYFVALVPQEEELDDQK  
IQVTPPGFQLVFLPFADDKRKMPFTEKIMATPEQVGKMKAIKEKLRFITYRS  
DSFENPVLQQHFRNLEALALDLME

♣PI2LZIPC♣

♣PEQAVDLTLPKVEAMNKRL♣ GSVDEFKELVYPPDYNPEGKVTKR  
KHDNEGSGSKRPKVEYSEEELKTHISKGTGKFTVPMLEACRAYGLKSG  
LKKQELLEALTKHFQD

FIG. 45



GGGALSPQHSAVTQGSIIKNKEGMDAKS

♠107x178x4♠

♥ALLMOTI5♥

♥♠LTAWSRTLVTFKDVYFVDFTREEWKLLDT♠ AQQIVYRNV  
MLENYKNLVSLGYQLT♥ KPDVILRLEKGEEPWLVEREIHQETHPD  
SETAFEIKSSVSSRSIFKDKQSCDIKMEGMARNDLWYLSLEE VWKCR  
DQLDKYQENPERHLRHQLIHTGEKPYECKEKGKSFSSHLIGHQKT  
HTGEEPYECKEKGKSFWSHVLVTHQRTHTGDKLYTCNQCGKSFVH  
SSRLIRHQRTHTGHPYECPECGKSFQSTHLILHQRTHVRVRPYECN  
ECGKSYSQRSHLVVHHRIHTGLKPFECKDCGKCFSSSHLYSHQRTHT  
TGEKPYECHDCGKSFSSQSSALIVHQRIHTGEKPYECCQCGKAFIRKN  
DLIKHQRIHVGAETKYCNQCGHIFSQNS

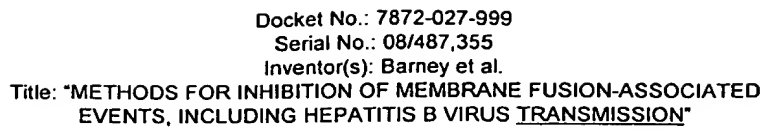
♣P23LZIPC♣

♣PFIVHQIAHTGEQFLTCGNQCGTALVNTSNLIGQTNHI♣ RENAY

FIG. 46

[illegible]

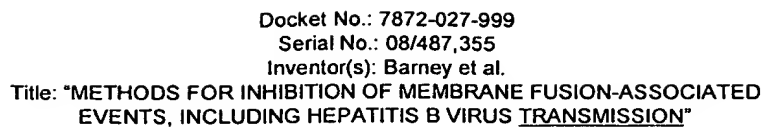
**FIG. 47A**



**FIG. 47B**

SIMIAN IMMUNODEFICIENCY VIRUS M251									
DP178-LIKE									
RESIDUE	245	T	W	Q	E	W	E	R	K
T- 390	245	T	W	Q	E	W	E	R	K
T- 391	246	W	Q	E	W	E	R	K	V
T- 392	247	Q	E	W	E	R	K	V	D
T- 393	248	E	W	E	R	K	V	D	F
T- 394	249	W	E	R	K	V	D	F	L
T- 395	250	E	R	K	V	D	F	L	E
T- 396	251	R	K	V	D	F	L	E	E
T- 397	252	K	V	D	F	L	E	E	N
T- 398	253	V	D	F	L	E	E	N	I
T- 399	254	D	F	L	E	E	N	I	T
T- 400	255	F	L	E	E	N	I	T	A

**FIG. 48A**







**FIG. 49B**

[illegible]

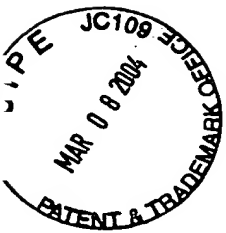
FIG. 49C







**FIG. 49G**



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

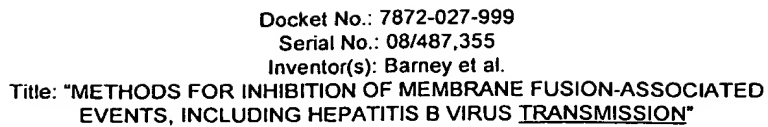
T220	59000
T221	16000
T234	>100000
T235	53000
T570	>100000
T381	89000
T382	190000
T677	6310
T376	>100000
T589	745000
T377	69000
T590	30290
T378	95000
T591	59000
T270	>200000
T271	16000
T272	1000
T273	>100000
T608	>100000
T609	>100000
T610	>100000
T611	70000
T612	>100000
T222	49000
T223	57000
T60/T224	77000
T225	>100000
T226	>100000
T227	>100000

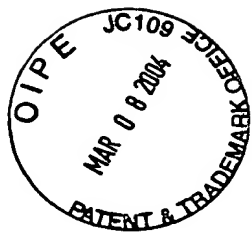
FIG. 49H





Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"





Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Q	N	Q	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	A	S	L	W	N	W	F	T99	56
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T103	ND
Q	Q	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T212	3
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	N	K	W	A	S	L	W	N	W	F	T213	25
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T214	19
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T215	23
Q	N	Q	Q	Q	K	N	Q	Q	Q	L	L	Q	L	D	K	W	A	S	L	W	N	W	F	T216	1000
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	A	N	A	A	T229	>100000
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	E	A	S	L	W	N	W	F	T230	6
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T231	4
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	F	N	F	F	T379	0.3
Q	N	L	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T701	3
Q	N	Q	Q	E	K	L	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	T702	36
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	F	D	K	W	A	S	L	W	N	W	F	T703	0.5
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	P	A	S	L	W	N	W	F	T704	510
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	P	W	N	W	F	T705	14
Q	N	Q	Q	E	K	N	Q	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	S	F	T706	68
K	E	L	W	E	Q	Q	E	I	S	I	Q	N	L	H	K	S	A	L	Q	E	Y	W	N	T156	80000
K	E	L	W	E	Q	Q	E	I	S	I	Q	N	L	H	K	S	A	L	Q	E	Y	W		T89	>100000
E	W	L	E	A	L	E	I	E	H	E	K	W	K	L	T	Q	W	Q	S	Y	E	Q	F	T90	>100000

FIG.49L



Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

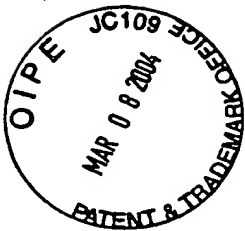
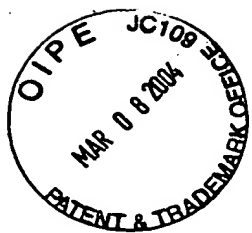
[illegible]

FIG. 50B



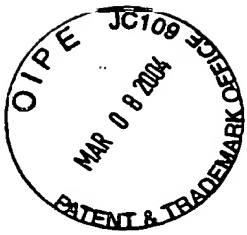
EPSTEIN-BARR VIRUS STRAIN B95.8 BZLF1 TRANSACTIVATOR PROTEIN EB1 OR ZEBRA																																													
RESIDUE	173	S	E	L	E	I	K	R	Y	K	N	R	V	A	S	R	K	C	R	A	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R	L	R	L	L	219	ACT RES
T-423	173	S	E	L	E	I	K	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>208</td> <td>++</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K									208	++	35
T-424	174	E	L	E	I	K	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>209</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S									209	-	35
T-425	175	L	E	I	K	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>210</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S										210	-	35
T-426	176	E	I	K	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>211</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E										211	-	35
T-427	177	I	K	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>212</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N										212	-	35
T-428	178	K	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>213</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D										213	-	35
T-429	179	R	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td>R</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>214</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R										214	-	35
T-430	180	Y	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td>R</td> <td>L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>215</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R	L										215	-	35
T-431	181	K	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td>R</td> <td>L</td> <td>R</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>216</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R	L	R										216	-	35
T-432	182	N	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td>R</td> <td>L</td> <td>R</td> <td>L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>217</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R	L	R	L										217	-	35
T-433	183	R	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td>R</td> <td>L</td> <td>R</td> <td>L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>218</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R	L	R	L											218	-	35
T-434	184	V	A	S	R	K	C	R	A <td>K</td> <td>F</td> <td>K</td> <td>Q</td> <td>L</td> <td>Q</td> <td>H</td> <td>Y</td> <td>R</td> <td>E</td> <td>V</td> <td>A</td> <td>A</td> <td>K</td> <td>S</td> <td>E</td> <td>N</td> <td>D</td> <td>R</td> <td>L</td> <td>R</td> <td>L</td> <td>L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>219</td> <td>-</td> <td>35</td>	K	F	K	Q	L	Q	H	Y	R	E	V	A	A	K	S	E	N	D	R	L	R	L	L											219	-	35
#																																													

**FIG. 51A**

[illegible]

FIG. 51B



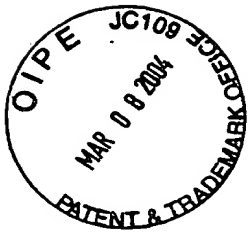


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Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED  
EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RESIDUE	197	L	Q	H	Y	R	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D	242	45			
T-447	197	L	Q	H	Y	R	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I							232	35							
T-448	198	Q	H	Y	R	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P						233	35							
T-449	199	H	Y	R	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R					234	35							
#	200	Y	R	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T				235	35							
T-451	201	R	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P			236	35							
T-452	202	E	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D			237	35						
T-453	203	V	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V			238	35					
T-454	204	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L			239	35				
T-455	205	A	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H			240	35			
T-456	206	A	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E			241	35		
T-457	207	K	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D			242	35	
T-458	208	S	S	E	N	D	R	L	R	L	L	L	L	L	L	L	L	L	L	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D	L			243	35
RESIDUE	209	S	E	N	D	R	L	R	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D	L	L	N	F				RESIDUE			246	37				
T-459	209	S	E	N	D	R	L	R	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D	L	L							244	35						
T-460	210	E	N	D	R	L	R	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D	L	L	N							245	35						
T-461	211	N	D	R	L	R	L	L	L	K	Q	M	C	P	S	L	D	V	D	S	I	I	P	R	T	P	D	V	L	H	E	D	L	L	N	F							246	35						

FIG.51C



DOMAIN I:

174 P-L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q-S-P 219

P-L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T  
L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T  
L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V  
V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C  
L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L  
Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G  
A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q  
G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N  
F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S  
F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q  
L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q-S

FIG.52A



DOMAIN II:

233 P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T-T 290

P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L  
G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P  
Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V  
R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C  
W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P  
M-C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L  
C-L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I  
L-R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P  
R-R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G  
R-F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S  
F-I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S  
I-I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T  
I-F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S  
F-L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T  
L-F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G  
F-I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P  
I-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C  
L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R  
L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T  
L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C  
C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M  
L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T  
I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T-T

FIG. 52B